

ARNOLD ARBORETUM

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Some of the Trees now in flower. The Horsechestnut of southeastern Europe, *Aesculus Hippocastanum*, when it is covered from top to bottom, as it is this year in the neighborhood of Boston, with its great erect clusters of white flowers is the most splendid object among the trees hardy in the northern states. There are several varieties of this tree in the Arboretum collection but none of them grow to such a large size or are as handsome in habit or in their flowers as the original tree. The double flowers of one of these abnormal varieties, however, have the advantage of lasting longer on the trees before fading. The European Horsechestnut only really flourishes in deep cool soil, and although it has been largely used to shade city streets in this country and in Europe it is not suited for such a purpose for the heat and drought of cities often cause it to lose its leaves at midsummer. Its place is in parks and gardens and by country roadsides. This tree appears to have been more generally planted in western New York than in other parts of the United States, probably because Rochester has long been an important center of the nursery business. No finer individual trees, however, can be found in this country than some of the specimens now more than a hundred years old which are growing in gardens in Salem, Massachusetts. They show what can be expected of this tree in New England where the Horsechestnut ought to be a hundred times more common than it is at present. Among the red and pink-flowered Horsechestnut trees, hybrids of *Aesculus Hippocastanum* and a red-flowered American Buckeye, are a number of handsome trees. The best known of these hybrids, *Aesculus carnea*, is the "red-flowered Horsechestnut" which is now a common tree in the suburbs of Boston. More conspicuous when in flower is a red-flowered variety known in nurseries as *Aesculus Briottii*. The tree in the Ar-

boretum of this variety is unusually full of flowers this year. Several of the Horsechestnut-trees with red and yellow flowers are handsome when in flower. They are natural hybrids which originated in Europe, some of them more than a century ago, between the yellow-flowered American *Aesculus octandra* and one of the red-flowered southern Buckeyes. The name of this hybrid is *Aesculus versicolor*. It appears to have been better known in gardens before the middle of the last century than it is now. There is a large tree of this hybrid in a garden near the corner of Pond and Eliot Streets, Jamaica Plain. Three Magnolias of the southern Appalachian Mountains, *Magnolia Fraseri*, *M. tripetala* and *M. cordata*, are also unusually full of flowers this year. With the exception of these and the Horsechestnuts the tree in the Arboretum now most conspicuous for its abundant and beautiful flowers is

Cornus controversa. This is a widely distributed tree in Japan, Korea and western China. In western Szech'uan Wilson photographed a specimen sixty feet high with a trunk seven feet in girth. In the Cornus collection on the right-hand side of the Meadow Road plants raised from seeds collected in western China by Wilson in 1907 are now in bloom, but the largest of these Cornels in the Arboretum is in the Peters' Hill Nursery. This plant was sent here in 1913 by the Park Department of the City of Rochester, New York; it is now about twenty-five feet high with a short trunk and a head twenty-six feet in diameter; the branches are long, crowded, and spread at right angles with the stem, drooping slightly at the ends, the lowest sweeping the ground. The upper side of the branches is thickly covered with the flat flower-clusters six or seven inches in diameter, and raised on erect stems. The flowers are white or white faintly tinged with yellow, and are followed by black shining fruits which are eaten by the birds as fast as they ripen. As it grows on Peters' Hill this Cornel is a magnificent plant and the handsomest of the genus in the Arboretum with the exception of the species with white floral bracts represented here by *Cornus florida* and *C. kousa*. To the student of botanical geography *Cornus controversa* is interesting as another living witness of the relationship between the floras of eastern Asia and eastern North America. For in the genus Cornus with many species there are but two with alternate leaves, *Cornus controversa* in eastern Asia and *C. alternifolia* in eastern North America. *Cornus controversa* was growing in the Veitchs' Nursery near London in 1880, but it has remained little known or understood in gardens owing to a confusion of this species with *Cornus macrophylla*, a Himalayan and eastern Asiatic tree with opposite leaves. Other trees which add beauty and interest to the Arboretum at this time are three Viburnums, the eastern American *V. prunifolium*, which has already dropped its flowers, and *V. Lentago*, and the Japanese *V. Sieboldii*. Not many small trees are more useful than these American Viburnums for the decoration of American parks and gardens, and fortunately nurserymen realize this fact and now grow them in large quantities, especially *V. Lentago*. The flowers of *V. prunifolium* are whiter than those of *V. Lentago* which are faintly tinged with yellow, but the flower-clusters and the leaves of the latter are larger. *V. prunifolium* is more inclined to grow with a single trunk than *V. Lentago* which is often a large arborescent shrub.

Arnold Arboretum Hybrids. Except with Roses, no attempt has been made at the Arboretum to produce hybrid trees or shrubs. Several hybrids, however, have appeared here from time to time, and the following, of which descriptions have been published, or will be published, are now well established here. Such hybrids are always interesting, and among those which have appeared in the Arboretum are a few which are more valuable than their parents, and in two instances at least the handsomest garden plants in the genera to which their parents belong. The Arboretum hybrids are *Pterocarya Rehderiana*, *Sorbus arnoldiana*, *Forsythia intermedia primulina*, *Malus arnoldiana*, *Malus rubriflora*, *Malus Dawsoniana*, *Prunus arnoldiana*, *Pyrus congesta*, *Cornus arnoldiana*, *Betula Jackii*, *Viburnum Jackii*, *Berberis notabilis*, *Lonicera amoena arnoldiana*, and *Aesculus Harbisonii*. Another Barberry, *Berberis ottawensis*, believed to be a hybrid of *Berberis Thunbergii* and *B. vulgaris*, which was first described from a plant in the Arboretum connected with the Dominion Experimental Farm at Ottawa, has appeared several times among seedlings in this Arboretum where it has proved to be a handsome and distinct plant. There is a large specimen of this hybrid on the right-hand side of the entrance to Azalea Path from the Bussey Hill Road. The most valuable of the Arboretum hybrids for general cultivation in this part of the world are *Pterocarya Rehderiana*, *Malus arnoldiana* and *Sorbus arnoldiana*. The *Pterocarya*, which is evidently a hybrid of the Caucasian *P. fraxinifolia* and the Chinese *P. stenoptera*, is much hardier than its parents and has grown more rapidly in the Arboretum than any of the species of this interesting genus of the Walnut Family. Several of these hybrid plants appeared here in 1879 from seeds sent from the Arboretum Segrezianum in France as seeds of *P. stenoptera*, so that although the plants were raised here the crossing of the two species occurred in France. The grove of these trees which shades a stretch of Hickory Path near Centre Street is one of the most interesting and attractive groups in the Arboretum. The trees send up many suckers from the roots and for several years have flowered freely and produced fruit. This hybrid is an important addition to the number of interesting and handsome trees which can be successfully grown in this climate. *Sorbus arnoldiana*, which appeared here in 1907 among seedlings of Chinese *Sorbus discolor*, is a fast-growing, vigorous tree already nearly twenty feet tall, with smooth, lustrous, yellow-gray bark, erect branches forming a broad compact symmetrical head, leaves with the narrow leaflets of *Sorbus discolor*, and the compact, slightly convex flower-clusters of *Sorbus Aucuparia*, as broad as those of *S. discolor*. The fruit is pink and in color unlike that of any of the species of *Sorbus*. This hybrid is the handsomest Mountain Ash in the collection where it has grown more rapidly than most of the species of the genus; and there now seems to be every reason to hope that it has enabled the Arboretum to add to the list of ornamental plants hardy in New England another tree as valuable as *Malus arnoldiana*. This tree, which appeared in the Arboretum many years ago, has been so often noticed in these Bulletins that it is not necessary now to do more than to repeat the fact that it is probably a hybrid of *Malus floribunda* and some other Asiatic Crabapple, probably one of the hybrids of *Malus baccata*; and that, in the judgment of many persons, it is the hand-

somest Crabapple now cultivated. *Malus rubrifolia* is the name which will be given to the hybrid Crabapple recently mentioned in Bulletin No. 5 of this volume. It finds a place in the list of Arboretum hybrids because it is now known that it was either raised from seeds gathered in the Arboretum or that it was a seedling pulled up from the neighborhood of the Arboretum plants of *Malus Niedzwetzkyana*. These Arboretum hybrids show that new plants may appear spontaneously in any large collection of cultivated plants, that such spontaneous hybrids are sometimes valuable and that others, although interesting, can add little or nothing to the beauty of gardens. They show, too, that if the fertilization of the flowers of one plant by the pollen from the flowers of a different species or hybrid can produce such results as *Sorbus arnoldiana* and *Malus arnoldiana*, systematic and intelligently directed hybridization might with the abundant material here produce plants more beautiful than any now known in our gardens.

Rhododendrons. The severe winter has not killed any of the plants in the Arboretum collection, but many Rhododendron branches have been broken by the weight of snow and ice, and the flower-buds of a few of the hybrids have been injured. The southern Appalachian *R. carolinianum* was the first species to open its buds this year and for the last ten days the plants have been covered with their small, rose-colored flowers. Almost as early were some of the forms or hybrids of *R. caucasicum*. The most satisfactory of these for general cultivation in this climate is probably "Boule de Neige," which is a dwarf round-headed plant with good foliage and dark green leaves. It is perfectly hardy and rarely fails to flower. "Mont Blanc" is another of these plants which can be depended on to give satisfaction. As it grows in the Arboretum it is a dwarfer plant than "Boule de Neige," but the clusters of flowers and the flowers are larger; the flowers when the buds first open are rose-color but soon become white. There are other named hybrids of *R. caucasicum* in the collection, but there is still much for us in this country to learn about the origin, correct names and hardiness of this race of Rhododendrons. The flower-buds of the Caucasian *R. Smirnowii* were uninjured by the winter and the plants are covered with the handsome pink flowers which make this one of the desirable Rhododendrons for Massachusetts gardens. Hybrids of this plant raised in England which are hardy in the Arboretum have lost their flower-buds, but those of a hybrid of the Japanese *R. Metternichii*, a species which grows badly here, with one of the hybrids of *R. catawbiense*, also raised in England a few years ago, are uninjured. The flower-buds of the two dwarf hybrids, *R. myrtifolium* and *R. arbutifolium*, useful plants to border beds of larger growing broad-leaved evergreen shrubs, are covered with uninjured flower-buds. The Rhododendrons most commonly found in American gardens are hybrids of *R. catawbiense* of the southern United States, and the first of them to flower here, *R. catawbiense album* has been in bloom for several days. One of this race called "Bismarck," which came to the Arboretum from Dresden, also flowers early and is unusually handsome this year. The largest number of Rhododendrons will probably be in bloom on Saturday and Sunday, the 12th and 13th of June. The collection is at the base of Hemlock Hill close to the entrance to the Arboretum from South Street. This entrance is most easily reached from Forest Hills by following South Street past the Bussey Institution.